CONTENTS VOLUME 32

Number 1, July 1989

EFFECT OF EXOGENOUS ESTRONE SULFATE ON EMBRYONIC SURVIVAL DURING ASYNCHRONOUS TRANSFERS IN THE PIG
D.K.H. Putra, R.D.A. Cameron, R.M. Fogarty and A.W. Blackshaw.....1

DOSAGE RESPONSE EVALUATION OF LUPROSTIOL ADMINISTERED TO PREGNANT SOWS
J.R. Diehl and T.J. Newby.....11

DOES INTRAUTERINE SITE OF INSEMINATION IN CATTLE REALLY MATTER?
H.W. Momont, B.E. Seguin, G. Singh and E. Stasiukynas.....19

POSTPARTUM REPRODUCTIVE PERFORMANCE IN THE MULTIPAROUS MARE FED TO OBESITY
J.R. Kubiak, J.W. Evans, G.D. Potter P.G. Harms and W.L. Jenkins.....27

GLUCOSE UTILIZATION BY ENZYMATICALLY-FORMED TROPHOBLASTIC VESICLES AND DAY-14 PORCINE BLASTOCYSTS
J.P. Selgrath, M.R. Flood and R.W. Wright, Jr.....37

GROWTH RESPONSE, ENDOCRINE PROFILES AND REPRODUCTIVE PERFORMANCE OF FINE-WOOL EWE LAMBS TREATED WITH OVINE PROLACTIN BEFORE BREEDING
R.A. Spoon and D.M. Hallford.....45

EFFECTS OF RAPID WEIGHT GAIN TO PUBERTY ON REPRODUCTION, MAMMARY DEVELOPMENT AND LACTATION IN EWE LAMBS
M.A. McCann, L. Goode, R.W. Harvey E.V. Caruolo and D.L. Mann.....55

DEVELOPMENT OF A ZONA-FREE HAMSTER OVA BIOASSAY FOR GOAT SPERM
T. Berger.....69

EFFECT OF DEXAMETHASONE ON SECRETION OF LUTEINIZING HORMONE AND TESTOSTERONE IN THE BOAR
D. Gaon and R.M. Liptrap.....79

EFFECT OF CYCLE AMP, IMIDAZOLE AND TRIIODOTHYRONINE ON THE RATE OF RNA SYNTHESIS BY EJACULATED RAM SPERMATOZOA
M.H. Salem, M.A. Abdel-Kereim, A.R. Selim, H.A. El-Oksh and V.G. Pursel.....87

REPRODUCTIVE PERFORMANCE IN MARES SUBJECTED TO EXAMINATION BY DIAGNOSTIC ULTRASOUND
M.M. Vogelsang, S.G. Vogelsang, B.R. Lindsey and J.M. Massey.....95

EFFECT OF CASTRATION ON PLASMA LUTEINIZING HORMONE IN POSTPUBERTAL BOARS
R.J. Kittok, J.E. Kinder and R.K. Johnson.....105

CELL LOSS IN BISECTED MOUSE, SHEEP AND COW EMBRYOS
M. Skrzyszowska and Z. Smorag.....115

NONSURGICAL EMBRYO COLLECTION FROM SOWS WITH SURGICALLY SHORTENED UTERI
K. Kobayashi, S. Hayashi, Y. Ohtubo, A. Honda, J. Mizuno and S. Hirano.....123

EXPOSURE OF BOVINE EMBRYOS TO TRYPSIN DURING WASHING DOES NOT DECREASE EMBRYONIC SURVIVAL
S.E. Echternkamp, S.M. Kappes and R.R. Maurer.....131

DIFFERENTIAL CLEAVAGE RATES AND SEX DETERMINATION IN BOVINE EMBRYOS
B. Avery, A.Bak, and M. Schmidt.....139

OVARIAN CYCLICITY AND SERUM PROGESTERONE AND LUTEINIZING HORMONE IN FINE-WOOL EWES SUPPLEMENTED WITH ALFALFA OR PINTO BEANS
S.K. Hamadeh, C.V. Hulet, T.T. Ross and D.M. Hallford.....149

ELECTROFUSION PARAMETERS FOR MOUSE TWO-CELL EMBRYOS
A. Clement-Sengewald and G. Brem.....159

Number 2, August 1989

THE DEVELOPMENT OF PUBERTY AND SEXUAL MATURITY IN THE AUSTRALIAN SWAMP BUFFALO BULL
C.J. McCool and K.W. Entwistle.....171

EFFECTS OF CLOPROSTENOL, HUMAN CHORIONIC GONADOTROPIN AND ESTRADIOL BENZOATE TREATMENT ON ESTRUS SYNCHRONIZATION IN DAIRY COWS
F. Lopez-Gatius.....185

CHARACTERIZATION OF PLASMA PROGESTERONE CONCENTRATIONS FOR TWO DISTINCT LUTEAL MORPHOLOGIES IN MARES
D.H. Townson, R.A. Pierson and O.J. Ginther.....197

POSTPARTUM ADRENOCORTICAL FUNCTION IN DAIRY COWS WITH DYSTOCIA SUBMITTED TO CESAREAN SECTION
T. Nakao and E. Grunert.....205

PRODUCTION OF BOVINE IDENTICAL TWINS VIA TRANSFER OF DEMI-EMBRYOS WITHOUT ZONAE PELLUCIDAE
N. Seike, K. Saeki, K. Utaka, M. Sakai, R. Takakura, Y. Nagao and H. Kanagawa.....211

THE EFFECT OF PREGNANCY AND FOALING ON INTRAVAGINAL PRESSURE IN PONY MARES
P.J. Goddard and W.E. Allen.....221

MOTILITY AND ACROSOMAL CHANGES IN IONOPHORE-TREATED BOVINE SPERMATOZOA AND THEIR RELATIONSHIP WITH IN VITRO PENETRATION OF ZONA-FREE HAMSTER OOCYTES
J.M. Bird, S. Carey and J.A. Houghton.....227

SURVIVAL OF DNA-INJECTED COW EMBRYOS TEMPORARILY CULTURED IN RABBIT OVIDUCTS
H.W. Hawk, R.J. Wall and H.H. Conley.....243

STIMULATION OF TESTICULAR FUNCTION DURING THE NONBREEDING SEASON IN THE WOODCHUCK (Marmota monax)
C. Sundqvist, A. Bartke, A. Woolf, C. Gremillion-Smith and J. Curl.....255

DIMETHYL SULFOXIDE INTRAUTERINE THERAPY IN THE MARE: EFFECTS UPON ENDOMETRIAL HISTOLOGICAL FEATURES AND BIOPSY CLASSIFICATION
W.B. Ley, J.M. Bowen, D.P. Sponenberg and P.N. Lessard.....263

TEMPORAL CHANGES IN SERUM PROSTAGLANDIN F2α AND OXYTOCIN IN DAIRY COWS WITH SHORT LUTEAL PHASES AFTER THE FIRST POSTPARTUM OVULATION
A.T. Peter, W.T.K. Bosu, R.M. Liptrap and E. Cummings.....277

BRAHMAN BULL FERTILITY IN A NORTH AUSTRALIAN RANGELAND HERD
T.H. McCosker, A.F. Turner, C.J. McCool, T.B. Post and K. Bell.....285

EFFECT OF PROSTAGLANDIN F2α DOSAGE AND STAGE OF ESTROUS CYCLE ON THE ESTROUS RESPONSE AND CORPUS LUTEUM FUNCTION IN BEEF HEIFERS
J.G. Berardinelli and R. Adair.....301

EFFECTS OF OVIDUCTAL TRAUMA ON HUMORAL ANTI-SPERM ANTIBODY PRODUCTION AND FERTILITY IN TURKEY BREEDER HENS
T.A. Kirk, H.P. Van Krey, R.M. Huler, E.A. Dunnington and D.M. Denbow.....315

DEVELOPMENT OF SHEEP PREIMPLANTATION EMBRYOS IN MEDIA SUPPLEMENTED WITH GLUCOSE AND ACETATE
J.G.E. Thompson, G.A.J. Parton, G.W. Cruickshank, J.K. Smith and R.G. Wales.....323

TESTOSTERONE SECRETION DURING EARLY PREGNANCY IN THE GOAT
R.G. Cooke.....331

THE OCCURRENCE OF ENDOTOXIN IN SOWS WITH COLIFORM MASTITIS
Z. Pajsak and K. Tarasiuk.....335

Number 3, September 1989

THE FLEHMEN RESPONSE OF BULLS AND COWS
K.A. Houpt, W. Rivera and L. Glickstein.....343

ENDOMETRITIS IN THE MARE: A COMPARISON BETWEEN REPRODUCTIVE HISTORY AND UTERINE BIOPSY AS TECHNIQUES FOR PREDICTING SUSCEPTIBILITY OF MARES TO UTERINE INFECTION
P. Williamson, S.J.M. Munyua and J. Penhale.....351

FERTILITY OF FROZEN-THAWED PORCINE SEMEN FOLLOWING CONTROLLED-RATE FREEZING IN STRAWS
D.G. Hammitt and P.A. Martin.....359

CORRELATIONS AMONG ASSAYS OF PORCINE SEMEN QUALITY FOLLOWING CRYOPRESERVATION
D.G. Hammitt and P.A. Martin.....369

CORRELATIONS BETWEEN HETEROSPERMIC FERTILITY AND ASSAYS OF PORCINE SEMEN QUALITY BEFORE AND AFTER CRYOPRESERVATION
D.G. Hammitt, P.A. Martin and T. Callanan.....385

CULTURE OF EQUINE TROPHOBLASTIC VESICLES IN VITRO
B.A. Ball, M. Altschul, K.P. Freeman and R.B. Hillman.....401

LAPAROSCOPIC OVIDUCTAL TRANSFER OF IN VITRO MATURED AND IN VITRO FERTILIZED BOVINE OOCYTES
R.A. Fayrer-Hosken, A.I. Younis, B.G. Brackett, C.E. McBride, K.M. Harper, C.L. Keefer and D.C. Cabaniss.....413

LIVESTOCK EMBRYO SEXING: A REVIEW OF CURRENT METHODS, WITH EMPHASIS ON Y-SPECIFIC DNA PROBES
R.A. van Vliet, A.M. Verrinder Gibbins and J.S. Walton.....421

DEEP-FREEZING OF RAINBOW TROUT *Salmo gairdneri* SPERM AT VARYING INTERVALS AFTER COLLECTION
R. Schmidt-Baulain and W. Holtz.....439

INDUCTION OF OVULATION IN GILTS WITH CLOPROSTENOL
A. Srikandakumar and B.R. Downey.....445

THE EFFECT OF ENDOMETRIAL BIOPSY ON OVULATORY INTERVAL IN MARES
R.O. Gilbert.....451

STUDIES OF CHEMICAL COMPONENTS OF ANGORA GOAT SEMINAL PLASMA
G. Mendoza, I.G. White and P. Chow.....455

COW-CALF ASSOCIATION DELAYS POSTPARTUM OVULATION IN MASTECTOMIZED COWS
S.D. Viker, W.J. McGuire, J.M. Wright, K.B. Beeman and G.H. Kiracofe.....467

GROWTH AND REPRODUCTION OF MICE DEVELOPED FROM BISECTED EMBRYOS
J. Nagai, G. Davis, K. Nonaka and H. Sasada.....475

MORPHOMETRIC ANALYSIS OF COLLAGEN IN GESTATIONAL AND RETAINED BOVINE PLACENTOMES
K.L. Sharpe, H. Eiler, W.C. Cullen and F.M. Hopkins.....485

EVALUATION OF BETA-ENDORPHIN AND NALOXONE ON BOVINE UTERINE MOTILITY
C.H. Ko, L.G. Wheaton, D.J. McKenna, H.L. Whitmore, B.K. Gustafsson and R.P. Smith.....493

EFFECT OF INDUCTION OF PARTURITION ON IMMUNOGLOBULIN CONTENT OF COLOSTRUM AND CALF SERUM
R.W. Field, K.N. Bretzlaff, R.G. Elmore and G.P. Rupp.....501

N-ACETYL-B-D-GLUCOSAMINIDASE ACTIVITY IN BOVINE UTERINE FLUID AND BLOOD SERUM DURING THE POSTPARTUM PERIOD
A.M. Hussain, R.C.W. Daniel and D. O'Boyle.....507

Number 4, October 1989

FERTILIZING CAPACITY OF EQUINE SPERMATOZOA STORED FOR 24 HOURS AT 5 OR 20°C
D.D. Varner, T.L. Blanchard, P.J. Meyers and S.A. Meyers.....515

EFFECTS OF POSTPARTURIENT UTERINE LAVAGE ON UTERINE INVOLUTION IN THE MARE
T.L. Blanchard, D.D. Varner, S.P. Brinsko, S.A. Meyers and L. Johnson.....527

EFFECTS OF ESTRADIOL CYPIONATE AND NATURAL AND SYNTHETIC PROSTAGLANDINS ON MYOMETRIAL ACTIVITY IN EARLY POSTPARTUM COWS
J.C.H. Ko, D.J. McKenna, H.L. Whitmore, C.Y. Chen, B.K. Gustafsson and R.P. Smith.....537

TRYPANOSOME-INDUCED INCREASE IN PROSTAGLANDIN F2α AND ITS RELATIONSHIP WITH CORPUS LUTEUM FUNCTION IN THE GOAT
B.M. Mutayoba, H.H.D. Meyer, J. Osaso and S. Gombe.....545

IMMUNIZATION OF CATTLE AGAINST MODIFIED PEPTIDES OF GONADOTROPIN RELEASING HORMONE CONJUGATED TO CARRIERS: EFFECTIVENESS OF FREUND'S AND ALTERNATIVE ADJUVANTS
S. Goubau, D.W. Silversides, A. Gonzalez, B. Laarveld, R.J. Mapletoft and B.D. Murphy.....557

PARTHENOGENETIC ACTIVATION BY ELECTRIC STIMULUS OF BOVINE OOCYTES MATURED IN VITRO
T. Kono, S. Iwasaki and T. Nakahara.....569

EFFECTS OF ESTROGEN AND PROSTAGLANDIN ON PROGESTERONE-DELAYED FARROWING
M.E. Wilson, L.A. Edgerton, T.S. Stahly and G.L. Cromwell.....577

HISTOPATHOLOGIC AND GROSS EFECTS OF TESTICULAR BIOPSY IN THE DOG
C. Lopate, W.R. Threlfall and T.J. Rosol.....585

EFFECT ON PREGNANCY RATE OF NONESTRUS INSEMINATION IN PREVIOUSLY INSEMINATED DAIRY COWS
L.D. Weaver, C.A. Daley and C.L. Borelli.....603

URINARY eCG PATTERNS IN THE MARE DURING PREGNANCY
J.F. Roser and R.M. Lofstedt.....607

OVARIAN STEROID SECRETION CHANGES AFTER HCG STIMULATION IN EARLY PREGNANT PIGS
J.E. Tilton, A.E. Schmidt, R.M. Weigl and A. J. Ziecik.....623

INTERACTION OF *Mycoplasma bovis* AND *Mycoplasma bovigenitalium* WITH PREIMPLANTATION BOVINE EMBRYOS
K.P. Riddell, D.A. Stringfellow and V.S. Panangala.....633

SPONTANEOUS AND OXYTOCIN-INDUCED UTERINE MOTILITY IN CYCLIC AND POSTPARTUM MARES
J.C.H. Ko, T.F. Lock, J.L. Davis and R.P. Smith.....643

STEROID SYNTHESIS BY THE FETAL PART OF THE BOVINE PLACENTA OF LATE PREGNANCY IN VITRO: EFFECT OF A LOW DOSE OF DEXAMETHASONE IN VIVO
M. Hoedemaker, P.G. Weston, A.P. Marques, Jr. and W.C. Wagner.....653

A REVIEW OF 126 CAESARIAN SECTIONS BY BLOOD GAS AND THE ACID-BASE STATUS OF NEWBORN CALVES
O. Szenci, M.A.M. Taverne and E. Takacs.....667

THE EFFECTS OF CERVICAL DILATION ON PLASMA PGFM, PROGESTERONE AND THE DURATION OF LUTEAL FUNCTION IN DIESTROUS MARES
M.H. Wilde, J.E. Dinger, T.A. Hoagland, R.L. Graves-Hoagland and C.O. Woody.....675

ISOLATION OF *Mycoplasma mycoides* subsp. mycoides (LC VARIANT, Y-GOAT) FROM NATURALLY ABORTED BOVINE FETUSES
P.K. Kapoor, D.N. Garg and S.K. Mahajan.....683

PROSTAGLANDIN F2α USAGE IN A DAIRY REPRODUCTION PROGRAM FOR TREATMENT OF UNOBSERVED ESTRUS, PYOMETRA AND OVARIAN LUTEAL CYSTS
W.D. Whittier, F.C. Gwazdauskas and M.L. McGilliard.....693

Number 5, November 1989

EFFICIENCY OF SINGLE-SIRE MATING PROGRAMS WITH BEEF BULLS MATED TO ESTRUS SYNCHRONIZED FEMALES
J.E. Pexton, P.W. Farin, R.A. Gerlach, J.L. Sullins, M.C. Shoop and P.J. Chenoweth.....705

BREEDING SOUNDNESS, LIBIDO AND PERFORMANCE OF BEEF BULLS MATED TO ESTRUS SYNCHRONIZED FEMALES
P.W. Farin, P.J. Chenoweth, D.F. Tomky, L. Ball and J.E. Pexton.....717

A METHOD FOR TRANSCERVICAL EMBRYO COLLECTION IN THE PIG
W. Hazeleger, J. van der Meulen and T. van der Lende.....727

DEEP FREEZING OF MOUSE ONE-CELL EMBRYOS AND OOCYTES USING DIFFERENT CRYOPROTECTANTS
J.J. Hernandez-Ledezma and R.W. Wright, Jr.....735

THE EFFICACY OF ESTRUS DETECTION AND FERTILITY FOLLOWING SYNCRONIZATION WITH PGF2α OR SYNCHRO-MATE-B IN ZEBU CATTLE
A. Orihuela, C.S. Galina and A. Duchateau.....745

UTEROKINETIC ACTIVITY OF FENPROSTALENE (A PROSTAGLANDIN F2α ANALOG) IN VIVO AND IN VITRO IN THE BOVINE
H. Eiler, W.H. Byrd and F.M. Hopkins.....755

INFLUENCE OF HARDENING OF THE ZONA PELLUCIDA ON IN VITRO FERTILIZATION OF BOVINE OOCYTES
L. Katska, P. Kauffold, Z. Smorag, U. Duschinski, H. Torner and W. Kanitz.....767

EFFECTS OF EPIDURAL ADMINISTRATION OF XYLAZINE OR LIDOCAINE ON BOVINE UTERINE MOTILITY AND PERINEAL ANALGESIA
J.C.H. Ko, G.C. Althouse, S.M. Hopkins, L.L. Jackson, L.E. Evans and R.P. Smith.....779

INTRAOVARIAN RELATIONSHIPS AMONG DOMINANT AND SUBORDINATE FOLLICLES AND THE CORPUS LUTEUM IN HEIFERS
O.J. Ginther, J.P. Kastelic and L. Knopf.....787

CULTURE OF SHEEP ZYGOTES IN SYNTHETIC OVIDUCT FLUID MEDIUM WITH DIFFERENT CONCENTRATIONS OF SODIUM BICARBONATE AND HEPES
S.K. Walker, R.J. Lampe and R.F. Seamark.....797

THE DIAGNOSIS OF SHORT PENIS AS A CAUSE OF IMPOTENTIA COEUNDI IN BULLS
R.O. Gilbert.....805

PROSTAGLANDIN F IN REPRODUCTIVE TISSUES COLLECTED DURING THE LUTEAL PHASE OF THE ESTROUS CYCLE AND AT PARTURITION IN VIRGINIA OPOSSUMS (Didelphis virginiana)
B.S. Houmard, J.D. Harder and J.S. Ottobre.....817

BREED DIFFERENCES IN BIPARIETAL DIAMETERS OF SECOND TRIMESTER TOGGENBUBRG, NIBIAN AND ANGORA GOAT FETUSES
G.K. Haibel, N.R. Perkins and G.M. Lidl.....827

ELECTRICAL ACTIVATION OF MOUSE OOCYTES
P. Collas, J.J. Balise, G.A. Hofmann and J.M. Robl.....835

TWINNING IN DAIRY CATTLE: A STUDY OF RISK FACTORS AND EFFECTS
M. Nielen, Y.H. Schuken, D.T. Scholl, H.J. Wilbrink and A. Brand.....845

REAL-TIME ULTRASONIC BIPARIETAL DIAMETER OF SECOND TRIMESTER SUFFOLK AND FINN SHEEP FETUSES AND PREDICTION OF GESTATIONAL AGE
G.K. Haibel and N.R. Perkins.....863

EFFECTS OF TESTOSTERONE AND 5 -DIHYDROTESTOSTERONE ON LUTEAL LIFESPAN IN DAIRY HEIFERS
W.J. Silvia, A.L. Jacobs and S.H. Hayes.....871

SUPEROVULATION AND EMBRYO RECOVERY IN RED DEER
P.F. Fennessy, M.W. Fisher, G.H. Shackell and C.G. Mackintosh.....877

Number 6, December 1989

EFFECT OF OVIDUCTAL CONDITION ON THE DEVELOPMENT OF ONE-CELL PORCINE EMBRYOS IN MOUSE OR RAT OVIDUCTS MAINTAINED IN ORGAN CULTURE
R.L. Krisher, R.M. Petters and B.H. Johnson.....885

EFFECT OF SUCKLING MANIPULATION ON POSTPARTUM REPRODUCTION IN PRIMIPAROUS BRAHMAN-CROSS COWS
J.S. Bluntzer, D.W. Forrest, P.G. Harms, J.R. Beverly and C.R. Long.....893

LIBIDO, SERVING CAPACITY AND BREEDING SOUNDNESS IN MUTURU AND N'DAMA BEEF BULLS
L.N. Nwakalor and C.O. Ezinma.....901

ADRENAL PRODUCTION OF SEX STEROIDS IN THE MARE
E.D. Watson and K. Hinrichs.....913

SUBCUTANEOUS PROGESTIN IMPLANTS VERSUS INTRAVAGINAL SPONGES FOR DAIRY GOAT ESTRUS SYNCHRONIZATION DURING THE TRANSITIONAL PERIOD
N.E. East and J.D. Rowe.....921

EFFECT OF GONADOTROPIN ADMINISTRATION ON ESTRUS SYNCHRONIZATION AND OVULATION RATE FOLLOWING INDUCED ABORTION IN SWINE
M.J. Martin, B.A. Didion and C.L. Markert.....929

RELATIONSHIPS AMONG PARITY, PREGNANCY AND ENDOCRINE EVENTS BEFORE AND AFTER ESTRUS IN BRAHMAN CATTLE
R.W. Godfrey, M.J. Guthrie, D.A. Neuendorff and R.D. Randel.....939

THE INFLUENCE OF BOAR STIMULATION ON PUBERTY ATTAINMENT IN TETHERED AND GROUP PENNED GILTS
A. Prunier and M.C. Meunier-Salaun.....949

VAGINAL CONDUCTIVITY AS AN INDICATOR FOR OPTIMUM BREEDING TIME IN THE SOW AFTER WEANING
J.C.H. Ko, L.E. Evans and S.M. Hopkins.....961

EFFECTS OF TEMPORARY CALF REMOVAL AND OSMOTIC PUMP DELIVERY OF GONADOTROPIN-RELEASING HORMONE ON SYNCHRONIZED ESTRUS, CONCEPTION TO A TIMED ARTIFICIAL INSEMINATION AND GONADOTROPIN SECRETION NORGESTOMET-ESTRADIOL VALERATE-TREATED CATTLE
W.R. McVey, Jr. and G.L. Williams.....969

EFFECT OF CYSTEINE FORTIFICATION ON PRESERVABILITY OF BUFFALO SEMEN IN MILK WHEY EXTENDERS
N.P. Singh, R.S. Manik and V.S. Raina.....979

THE NATURAL OCCURRENCE OF SHEEP X GOAT HYBRIDS
L.E.L. Pinheiro, S.E.F. Guimaraes, I.L. Almeida, Jr. and A.B. Mikich.....987

EFFECT OF MELATONIN AND EXTENDED LIGHT ON REPRODUCTIVE PERFORMANCE OF FALL-BORN POLYPAY EWE LAMBS AND EWES DURING SPRING BREEDING
J.N. Stellflug, J.A. Fitzgerald and C.F. Parker.....995

HORMONAL EVENTS AT OXYTOCIN-INDUCED ESTRUS IN THE GOAT
A.M. Homeida and R.G. Cooke.....1007

AUTHORS INDEX (Volume 32).....1011

SUBJECT INDEX (Volume 32).....1015

Contents (Volume 32).....1021